Ethereum tokens

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EIP20

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The EIP-20 defines ERC-20 token with different functions for the benefit of other tokens within the Ethereum system. These are generally basic functionality issues, including the method in which tokens are transferred and how users can access data regarding a particular token.

To execute the functions that require computation the client need to send a transaction and pay the gas fee.

When some functions are executed, a event must be triggered to notify all subscribed clients.
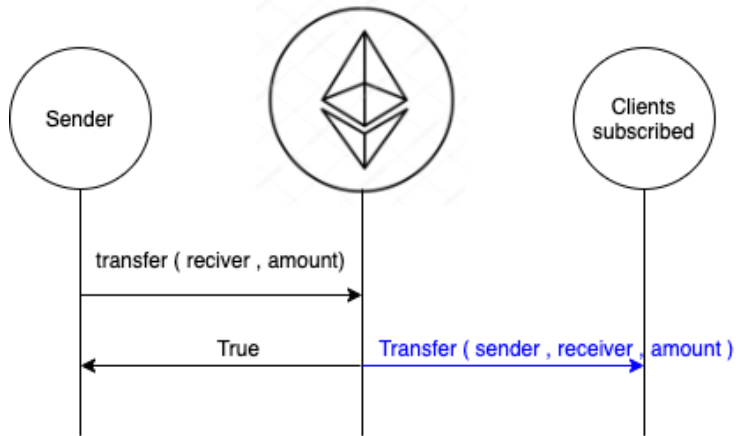
Functions

- Some intro
- function name() public view returns (string)
- function symbol() public view returns (string)
- function decimals() public view returns (uint8)
- function totalSupply() public view returns (uint256)
- function balanceOf(address owner) public view returns (uint256 balance)
- function transfer(address to, uint256 value) public returns (bool success)
- function transferFrom(address from, address to, uint256 value) public returns (bool success)
- function approve(address spender, uint256 value) public returns (bool success)
- function allowance(address owner, address spender) public view returns (uint256 remaining

- Events must been triggered when some functions are executed:
- event Transfer(address indexed from, address indexed to, uint256 value)
- event Approval(address indexed owner, address indexed spender, uint256 value)

Transfer process

Use case: To send funds from your account to a receiver.

```
function transfer(address to, uint256 value) public returns (bool success)
```

Use case: To send funds from other's account to a receiver, an example is an exchange.

1. Sender approves one spender with a limited amount calling approve. This function will save this relation in the nested map allowance.

```
function approve(address spender, uint256 value) public returns (bool success)
```

2. Spender calls transferFrom with the parameters: spender, receiver, amount. This function checks: if sender has enough money and the allowance, then change the balances and removes the amount from allowance.

```
function transferFrom(address from, address to, uint256 value) public returns (bool success)
```